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AMSAT NEWS SERVICE
ANS-267

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org

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SB SAT @ AMSAT $ANS-267.01
ANS-267 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 267.01
>From AMSAT HQ SILVER SPRING, MD.
September 23, 2012
To All RADIO AMATEURS
BID: $ANS-267.01

September 23 Last Day for Reduced Symposium Registration Rate

AMSAT announces the 2012 AMSAT Space Symposium will be held on Friday, October 26th through Sunday, October 28th.

See the AMSAT Web Store to complete your on-line registration:
http://store.amsat.org/catalog/index.php?cPath'

Symposium Registration including Proceedings
- Through September 23, 2012: $ 45.00
- Starting September 24, 2012: $ 50.00
- At the Door: $ 55.00

Downloadable paper registration forms in MS-Word format and PDF format are available on the 2012 Symposium page:
http://www.amsat.org/amsat-new/symposium/2012/index.php

The Symposium Hotel is the Holiday Inn at Orlando-International Airport is located one mile from the Orlando International Airport

(MCO). The AMSAT discount rate is $99 + taxes per night. The reservation block code used when calling the hotel directly is AMT.

The hotel telephone number is 407-851-6400. The Symposium Committee recommends you make reservations by calling the hotel directly rather than through the Web. Cutoff date for reservations is Oct 6, 2012. The direct link to the hotel web page is:
http://www.holidayinn.com/hotels/us/en/orlando/mcoap/hoteldetail

The Symposium Schedule web page has been updated with links to find more information about the planned activities. See:
http://www.amsat.org/amsat-new/symposium/2012/SymposiumSchedule.php

[ANS thanks the 2012 Symposium Committee for the above information]

2012 Barry Goldwater Amateur Radio Award to Bill Tynan, W3XO

The Radio Club of America announced this week that William A. Tynan, W3XO, is the recipient of its 2012 Barry Goldwater Amateur Radio Award. The award recognizes Bill's lifelong service to the public through amateur radio. It will be presented at the club's annual awards banquet in New York on November 16th. ARRL CEO David Sumner, K1ZZ, like Bill a club Fellow, will be the keynote speaker.

Bill, one of AMSAT's charter members, is a past President and Chairman of the Board. For many years, he conducted QST's monthly column, "The World Above 50 MHz." He is also a past President of the Central States VHF Society. Bill played a key role in the origination of amateur radio from the Space Shuttle and the International Space Station.

The Radio Club of America, founded in 1909, is the world's oldest radio communications association. For more information, see:
http://www.radioclubofamerica.org.

Congratulations, Bill!

[ANS thanks Ray Soifer, W2RS for the above information]

AMSAT Awards

AMSAT Director Contests and Awards, Bruce Paige, KK5DO says congratulations are in order for our latest AMSAT Awards recipients.

The following have entered into the Satellite Communicators Club for making their first satellite QSO.
+ Steven Holland, KC9TTQ
+ Ron Reiter, KD8SEV
+ Dan Kowell, AL7RS
+ Michael Mustachia, KF5PHA
+ Randy Morden, VE6RGU
+ Glyn Dodwell, GM4CFS

The following have earned the AMSAT Communications Achievement Award.
+ Kenneth Holland, KC9TTR, #550

The following have earned the South Africa Satellite Communications Achievement Award.
+ Kenneth Holland, KC9TTR, #US179

The following have earned their Robert W. Barbee, Jr. W4AMI Award
+ Theo Doty, AA5CK, #79

To see all the awards visit http://www.amsat.org.

[ANS thanks Bruce Paige, KK5DO for the above information]

Silent Key: John Beanland, G3BVU

AMSAT has received the sad news on the passing of John Beanland, G3BVU. John was an avid AMSAT member and helped man the AMSAT booth at the Boxboro Hamfest over the years. His friends remember John to be outgoing and enthusiastic about amateur radio in space. AMSAT President Barry Baines, WD4ASW noted, "AMSAT has lost a good friend and enthusiastic member."

Charles "John" Beanland, born in Witney, England was 85 years old passed away on September 21, 2012 after a long illness. John enlisted in the UK Navy during WWII. He was first licensed as G3BVU in 1947. He worked for Post Office in Engineering and English Electrical Valve where he worked on Guided Weapons. He later joined Texas Instruments and finally Microwave Associates, UK where he developed VHF solid state power amplifiers all while attending and receiving BS degrees in Electrical Engineering, Radio and Telecommunications.

Microwave Associates transferred him from the UK to Burlington, MA in 1963. In 1966 he joined the MITRE Corporation in Bedford, MA as a Member of the Technical Staff working on microwave systems and Over The Horizon Radar (OTHR) HF direction finding systems until his retirement in 1993. During that time he received his Masters Degree in Electrical Engineering from Northeastern University. In 1972 he acquired Spectrum International, specializing in antennas, filters, VHF transverters and satellite tracking systems which he operated until his passing. He later received his US call sign, AA1YE and taught Amateur Radio licensing courses and HF radio propagation at local radio clubs.

John was married to Dorothy Beanland for over 57 years. They have 3 children and 3 grandchildren. He resided in West Acton, MA. A wake will be held on Monday, September 24th from 5-8 PM at the Acton Funeral Home on Rt. 111 in Acton, MA. A burial service will be held at the Church of the Good Shepherd in Acton, MA at 10 AM, Tuesday, September 25th followed by burial in Acton, MA.

[ANS thanks Joe Reisert, W1JR and Barry Baines, WD4ASW for the above information]

Official Statement of the AMSAT-DL BoD About P3E & P5

Dear All,

The following News will appear as an Editorial in our up-coming

AMSAT-DL Journal.

Because of the importance of the contents the AMSAT-DL BOD and Project Leaders decided to give this information to all team members who are currently or who were directly or indirectly involved in the past ... We want to make sure that our members get it from us and not from any rumours on the net ... Thanks.

While the decision of DLR is hitting us hard, this is not yet the end. I recently had some interesting meetings in China and if we can't do Rocket Science in DL, we have to look for other countries.

But please read below ... We hope you will support us also in future and if you want to re-join, you are also much welcome. AMSAT needs YOU!! If we missed someone from the members, please forward this e-mail.

Best wishes
Peter DB2OS
Hartmut DL1YDD
Michael DD5ER

DLR rejects P5-/Mascot-2 project

Dear Members and Friends of AMSAT-DL, discussions with the German Ministry of Economics and the German space agency DLR spanned more than 5 years. Amongst others, we met with State Secretary for Space and Aerospace Hinze, DLR chairman Prof. W�rner and the DLR Program Board. In 2009 AMSAT-DL, in collaboration with the DLR Institute for Space Systems in Bremen, conducted two complex Concurrent Engineering studies.

They were jointly presented to the DLR program board in K�ln-Porz in 2010.

The final documentation confirmed the feasibility of the P5 project, both to the Moon and to Mars.

In October and November 2011 another two P5 meetings with DLR chairman Prof. W�rner, Ministry MinDirig Engelhard, representatives of DLR IRS Bremen and AMSAT-DL BOD took place. Topics were feasibility and financing model.

It turned out that the ministry had a different perception of the (DLR-) payloads.

DLR was asked to reconsider their payloads. Both AMSAT-DL BOD and IRS Bremen left the meetings with positive feelings.

Then it turned out that, since completion of the 2009 joint study, the P5 scientific appeal is apparently no longer attractive. Therefore it was jointly searched for modifications to regain a payload appeal that was attested in 2009. AMSAT-DL proposed landing part of the payload on Mars moon Deimos or Phobos. Our calculations showed that this is feasible with reasonable effort. The landing would be a particularly unique feature of the P5 mission.

After repeated enquiries we received a letter from DLR at end of June where they stated that "the DLR Program Board comes to the conclusion, that pursuit of the P5 idea is infeasible and also financially infeasible."

We repeatedly approached the DLR Program Board since then. The assertion was that any P5 mission will not fly with DLR: the scientific

attraction was, compared with the current Mars missions, insufficient.

The primary reason for this is that the P5 MARS orbit is limited due to the low-cost character of the mission. From this orbit no attractive science is possible. Obviously our P5 mission is now compared with regular missions which cost hundreds of millions of Euro.

This rejection has a wide impact on AMSAT-DL. Activities of all involved persons, including in the P3-E project, was shaped for years by the P5 mission.

It was assumed that P3-E was to be launched as part of the P5 mission. This path is obstructed now.

We maintain our contacts with the various launching agencies able to launch P3-E into an appropriate orbit. The tremendous launching costs kept us from more concrete talks so far. Just recently good contact with AMSAT China (CAMSAT) was established. China has suitable launchers to bring payloads into GTO. Moreover, China has discovered that amateur radio is a means of motivating young people to technical university studies.

Furthermore we are very actively exploiting a potential shared ride of an amateur radio payload on a new geostationary satellite. We have already submitted a formal project proposal. The satellite will be visible from Europe.

No antenna tracking will be necessary. The big advantage of this project is that due to the operational requirements of the primary payload, our launching and commissioning is tied to the not too far future.

The 20m dish antenna at Bochum observatory was originally refurbished and upgraded for the P5 mission and is presently used for Deep Space Mission and amateur radio purposes. The automatic reception of the STEREO probes and data transfer to NASA will continue. In collaboration with NASA and AMSAT-DL the modulation scheme will be changed to use Turbo coding. Both hardware and software is currently being designed by AMSAT-DL and will be used by the partner STEREO receiving stations worldwide. Our funding application is already approved. The project funding runs until the end of 2015.

The AMSAT-DL Marburg Lab will be preserved at least in medium term to be able to do work on P3-E and, should the situation arise, on the transponder of the mentioned geostationary satellite.

We pursue a near-term meeting with all P5 project team members to identify ways for a project continuation. The necessary procedures should be coordinated then.

Although we regret the DLR refusal of the P5 project (particularly because some DLR payload will not fly in any foreseeable time frame), and although it places serious challenges to AMSAT-DL, this is not the cancellation of a HEO amateur radio satellite. We will aggressively follow up all potential possibilities. We hope to be able to report positively at the AMSAT-DL AGM in autumn.

Since the Marburg University's withdrawal from the ZEL, the surrounding conditions have changed significantly, again. However, we will do everything we can do to get an amateur satellite launched into HEO.

We do trust in our volunteers and members.

The AMSAT-DL BOD:
Peter Guelzow, DB2OS
Hartmut Paesler, DL1YDD
Michael R. Lengruesser, DD5ER

Editors Note: A video of the AMSAT-DL update given by Peter Guelzow, DB2OS at the 2012 AMSAT-UK Colloquium can be viewed at:
- Go to http://www.batc.tv/
- Click on "Film Archive"
- Select "AMSAT 2012" in the Category box and click on Select Category
- Select "04 - AMSAT-DL" in the Stream box and click on Select Stream
- Click the play button on the video player window

[ANS thanks Peter Guelzow, DB2OS; Hartmut Paesler, DL1YDD; Michael R. Lengruesser, DD5ER; and AMSAT-DL for the above information]

CubeSat Deployment From ISS Set for September 27

Five cubesats launched on July 21 and now aboard the ISS have been integrated with the J-SSOD small satellite deployer on the the Japanese Experiment Module, also known as Kibo. They will be deployed with the Kibo robotic arm planned September 27, 2012.

First, 15:10-15:20 UTC: WE-WISH, RAIKO by Astronaut Akihiko Hoshide
Second, 16:30-16:40 UTC: TechEdSat, NanoRack/F-1, FITSAT-1 by JAXA GS

Satellite	Downlink	Beacon	Mode
FITSAT-1	437.445, 5.84GHz	437.250	FM,CW
WE WISH	437.505	437.505	SSTV,CW
RAIKO	2.2GHz, 13GHz	13GHz	38.4 - 500kbps
TechEdSat	437.465	437.465	CW
F-1	145.980	437.485	1200bps AFSK,FM,CW

Also, refer to the previous ANS bulletin on this topic at:
http://amsat.org/pipermail/ans/2012/000650.html

[ANS thanks Mineo Wakita, JE9PEL for the above information]

Dedicated University CubeSat Downlinks on the Table for ITU WRC-18

IARU Secretary Rod Stafford, W6ROD, reports that the IARU Administrative Council will meet in the next 45 days to address the agenda items for the 2015 World Radiocommunication Conference (WRC-15).

Planning for the dedicated spectrum for university research cubesats will begin for WRC-15 but the actual allocation of frequencies may not occur until the 2018 World Radiocommunication Conference.

In an article posted on the ARRL web, Stafford noted, "A lot of radio amateurs are aware of the increasing use of amateur spectrum by small satellites, mainly by universities. It is becoming an increasingly difficult situation to accommodate the number of small, non-commercial satellites within the amateur bands. These education-based satellites

do not really fit within the definition of the Amateur Radio Service, but have been accommodated there. These small satellites are categorized as nanosatellites (weighing between 1-10 kg) and picosatellites (weighing less than 1 kg). The ITU is trying to deal with this issue in an orderly manner and a "preliminary" WRC-18 agenda item is to consider whether these satellite operations can be accommodated in an already crowded radio spectrum. As these issues develop, the IARU will keep its Member-Societies, such as the ARRL, aware of developments." with an eye to building the best strategy to deal with those agenda items in a way that is most favorable to the Amateur Radio Service."

Read the full article, including many other IARU agenda items at:
http://www.arrl.org/news/looking-ahead-to-wrc-15

[ANS thanks the ARRL for the above information]

BUAA-SAT 435/145 MHz FM Amateur Radio Satellite Planned for 2014

BUAA-SAT is a university micro-satellite project developed by the students of Beihang University (Beijing University of Aeronautics and Astronautics). It carries an amateur radio 435/145 MHz FM voice transponder

The satellite has a mass of 30kg, dimensions of 30cm*30cm*50cm and aims to go into a 600-800 km Sun Synchronous Orbit (SSO) from Taiyuan in late 2014.

The primary missions are:
+ To study the application of COTS components used in the onboard electronic system
+ To demonstrate the coilable mast deployment mechanism
+ To carry out imaging using three CMOS cameras

Moreover, it provides a 27dBm U/V FM voice transponder for the use of radio hams world-wide as well as a 20dBm CW beacon and a 27dBm AX.25 beacon also in the 145 MHz band.

BUAA-SAT website http://sat.buaa.edu.cn/
BUAA-SAT Group in Google English http://tinyurl.com/BUAA-SAT-Group

AMSAT-UK also posted an article and photos at:
http://www.uk.amsat.org/10387

[ANS thanks Southgate ARC and AMSAT-UK for the above information]

ARISS Rolls on With Successful School Contacts

News from the Amateur Radio on the International Space Station (ARISS) Status Report - September 17, 2012

Maroochydore, Queensland, Australia

Students attending Maroochydore State School in Maroochydore, Queensland, Australia participated in an Amateur Radio on the International Space Station (ARISS) contact on Wednesday, September 12 via tele-

bridge station VK4KHZ in Australia. Akihiko Hoshide, KE5DNI answered 14 questions of the students before the ISS went over the horizon.

Approximately 40 students and guests were in attendance and the contact received coverage by radio, television and newspapers. The contact was integrated into a comprehensive space curriculum, with lessons focused on the Venus Transit, the Juno mission and the Curiosity mission.

Dorado, Puerto Rico

An ARISS contact was held between Joe Acaba, KE5DAR on the ISS and Marcelino Canino Canino Middle School in Dorado, Puerto Rico on Wednesday, September 12 via telebridge station K6DUE in Greenbelt, Maryland. The session was conducted in Spanish, with all 16 questions answered. The students are involved in a Microsatellite Hardware program through which they design, build, launch, track and retrieve their microsatellites with the assistance of many local amateur radio operators.

Sindelfingen, Germany

On Thursday, September 13, Sunita Williams, KD5PLB spoke with students at the Gymnasium Unterrieden in Sindelfingen, Germany through an ARISS contact and answered their space-related questions. One hundred people showed up for the event, including 4 media outlets. The audio was broadcasted via 2 amateur radio relays. The contact was integrated into several other amateur radio activities which included the students preparing for entry level amateur radio licenses and building a satellite receiving station. Video has been posted: http://www.youtube.com/watch?v=uOnhrsOvg

NASA Goddard Space Flight Center in Greenbelt, Maryland

A second ARISS contact that Akihiko Hoshide, KE5DNI took part in last week was with children at the NASA Goddard Space Flight Center in Greenbelt, Maryland on Thursday, September 13. The students had 21 questions answered during the ISS pass, and as the coordinating person at Goddard had previously asked another astronaut for answers to the questions, the remaining students still received "official" answers to their questions. Nearly 100 people were in attendance, with 4 media cameras recording the event. Prince George's County Community TV reported on the event. See: http://tinyurl.com/9q939u3

Oak Hill, Florida

On Thursday, September 13, an ARISS contact was held between children at the Burns Sci-Tech Charter School in Oak Hill, Florida and Sunita Williams KD5PLB on the ISS. Daytona Beach Amateur Radio Association supported the school in this endeavor. The contact was integrated into lessons on radio waves, electricity, communications, geography and languages.

Kolo, Poland

Zesp=l Szk=l Technicznych w Kole, Kolo, Poland participated in an Amateur Radio on the International Space Station (ARISS) contact on Wednesday, September 19. Besides learning about space, amateur radio and satellite tracking in the classroom, students are also attending lectures on astronautics, engineering and astronomy. They are involved with related hands-on activities and competitions, with the winners receiving the opportunity to question the ISS astronaut. In addition, the school is forming astronomy and amateur radio clubs

for the youth. The event was broadcast live on:
http://live.arisspolska.info/

San Diego, California

An Amateur Radio on the International Space Station (ARISS) contact was completed with Sunset Hills Elementary School in San Diego, California on Thursday, September 20 at 17:24 UTC. Students are learning about the radio and space through age-appropriate hands-on activities. NASA education Web site materials are being used and guest speakers from the local Amateur Radio club will give a presentation to the students.

LaFayette, Georgia

Lafayette Middle School, La Fayette, Georgia completed an Amateur Radio on the International Space Station (ARISS) contact on Friday, September 21. The school used the ARISS contact to promote the areas of Science, Technology, Engineering, and Mathematics within its entire system. It arranged for Skype interviews with guests for the ARISS event: Dr. Rob Suggs and Dr. Bill Cooke of Marshall Space Flight Center in Huntsville, Alabama; Cristi Whitworth, Educational Director for Pisgah Astronomical Research Institute; and Dr. June Scobee Rodgers, Founding Chair of the Challenger Center at the University of Tennessee at Chattanooga.

[ANS thanks Carol Jackson, KB3LKI for the above information]

NASA Offers Opportunity to Use Communications Testbed on ISS

The SCAN testbed is a communications, navigation and networking demonstration platform based on the STRS. The experimental platform began its initial checkout activities on the space station August 13 and will operate for as long as three years.

NASA is announcing opportunities for academia, industry and government agencies to develop and carry out research and technology demonstrations on the International Space Station using the newly installed Space Communications and Navigation (SCAN) testbed.

There are two announcements of opportunity. The SCAN Testbed Experiment Opportunity invites industry and other government agencies to enter into Space Act Agreements with NASA to use the space station's SCAN platform.

The SCAN Testbed Cooperative Agreement Notice invites academia to develop proposals to use the orbiting laboratory's SCAN testbed research capabilities. NASA expects the first demonstrations by late 2013 or early 2014.

These opportunities will allow researchers to develop new software according to the Space Telecommunications Radio Standard (STRS) architecture for radios and reconfigure how radios communicate in space.

Experiments will provide waveforms and software components to the STRS waveform repository and enable future hardware platforms to use common reusable software modules. These new capabilities could enable greater scientific return from future NASA missions.

Details and specifications are available from NASA:

http://tinyurl.com/SCAN-Testbed (nasa.gov)
http://spaceflightsystems.grc.nasa.gov/SOPO/SCO/SCaNTestbed/Candidate/

[ANS thanks NASA and Space-Travel.com for the above information]

Satellite Shorts From All Over

+ AMSAT's Keeper of the Keps, Ray Hoad, WA5QGD reports that the ELaNa cubesats launched 9/17/2012 have been added to this week's KEPs: AENEAS - Cat #38760; CSSWE - Cat #38761; CP5 - Cat #38763

+ Photos and a video of the Atlas launch from Vandenberg can be viewed at: http://spaceflightnow.com/atlas/av033/ This launch carried satellites for the National Reconnaissance Office. Also aboard this flight at four cubesats as part of ELaNa IV mission and seven cubesats for government missions.

+ A photo of the Soyuz TMA-04M spacecraft as it lands with Expedition 32 Commander Gennady Padalka of Russia, NASA Flight Engineer Joe Acaba and Russian Flight Engineer Sergie Revin in a remote area near the town of Arkalyk, Kazakhstan, on September 17 can be seen at: http://spaceref.com/news/viewsr.html?pidB064

+ NASA Explorer Schools is offering students in grades 4-12 an opportunity to ask questions of Bob Cabana, astronaut and Director of NASA's Kennedy Space Center. Join the video chat on Sept. 25, 2012, from 1-1:45 p.m. EDT to ask Cabana questions about his education, astronaut training, living and working in space and the future of space exploration. Students do not need to be in a school participating in the NASA Explorer Schools project in order to ask questions during this video chat. Submit questions during the chat through a chat window, or send them to: NASA-Explorer-Schools@mail.nasa.gov.
  To learn more about NES, visit http://www/explorerschools.nasa.gov.
  For more information and to view the video chat, visit: http://tinyurl.com/explorer-chat (nasa.gov)

+ NASA has announced their "Space Place Prime," the new NASA magazine for iPad. This free, brand new app gathers some of the best and most recent Web offerings from NASA. It taps engrossing articles from The Space Place website, enlightening NASA videos and daily images such as the Astronomy Picture of the Day and the NASA Earth Observatory Image of the Day. For more information about the new magazine, visit http://spaceplace.nasa.gov/ios/. (iPad is a registered trademarks of Apple Inc.)

+ The Houston AMSAT Net meets every Wednesday at 0100z (this is Tuesday evening in North America) on Echolink - Conference *AMSAT* . The MP3 audio is also streamed http://www.amsatnet.com. After the net a Podcast is available at: http://www.amsatnet.com/podcast.xml or iTunes

+ The next Hudson Valley Satcom net date is Thursday, September 27, 8 PM EDT (UTC-4 UTC) on the 146.97 MHz MBARC Repeater (PL 100). An echolink connection is available on the N2EYH-L node. More information at: http://www.hvsatcom.org. (Stu, WA2BSS)

+ The Canadian Space Agency announced that a British Columbia artisan-made organic cereal is one of 12 Canadian foods to accompany Canadian Astronaut and Mission 35 Commander Chris Hadfield on the

December space mission to the International Space Station where he will live and work for six months as part of the crew. We wonder how many students will ask how the crew is enjoying their cereal described at: http://spaceref.com/news/viewpr.html?pid8629

+ How would you like to be famous? If you know any scientific, math, or electronics puns send them to k9jkm@amsat.org. The winners will occasionally be included in the ANS bulletins.

[ANS thanks everyone for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information. And with that, please keep in mind that programming today is a race between software engineers striving to build bigger and better idiot-proof programs, and the Universe trying to produce bigger and better idiots. So far, the Universe is winning.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM